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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/820,819	03/30/2001	Akio Tanaka	P 280082 U3-0109-RH	4490

23117 7590 02/02/2004

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EXAMINER

OLSEN, KAJ K

ART UNIT	PAPER NUMBER
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1753

DATE MAILED: 02/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/820,819

Applicant(s)

TANAKA ET AL.

Examiner

Kaj Olsen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-10 and 12-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12 is/are allowed.
- 6) ☒ Claim(s) 1, 5, 10, 14, 15 and 20-22 is/are rejected.
- 7) ☒ Claim(s) 2, 3, 6-9, 13, 16-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. In applicant's amendment to the claims, applicant neglected to indicate the status of claim
11. See page 5 of the listing of the claims. According to the remarks, this claim has been canceled. In any future response from the applicant, the applicant must indicate the current status of this and all claims.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 5, 14 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Upon amendment applicant canceled claim 4. However, claim 5 still depends from the canceled claim. Because claim 4 previously depended from claim 3, the examiner will interpret claim 5 as dependent from claim 3, but clarification is required.
5. In new claims 14 and 15, applicant refers to the fourth electrochemical cell which does not appear in claim 1. For the purpose of examination, the examiner will interpret claims 14 and 15 as depending from claim 2 which does disclose the fourth electrochemical cell.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1 and 20-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Hasei et al (USP 6,319,377 B1).

8. With respect to claim 1, this claim remains rejected over the reference for the reasons set forth in the previous 102 rejection over this reference.

9. With respect to new claims 20 and 22 (those limitations not covered in the previous rejection of claim 1), Hasei discloses a third electrochemical cell (7, 5) for measuring the potential difference between the measuring gas chamber (which is connected to the gas to be measured) and a reference gas chamber. See col. 6, lines 3-12. Because λ measurements rely on the induced emf, the third electrochemical cell is inherently capable of providing the set forth measurement of λ -characteristics. With respect to claim 21, the application of voltage is only the intended use of the apparatus and the intended use need not be given further due consideration in determining patentability.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hasei in view of Mase (USP 4,755,274).

12. This claim remains rejected as being obvious over these two teachings for the reason set forth in the previous office action.

Allowable Subject Matter

13. Claim 12 is allowed.

14. Claims 2, 3, 6-9, 13 and 16-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

15. Claims 5, 14 and 15 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

16. Applicant's arguments filed 11-4-2003 have been fully considered but they are not persuasive. However, the examiner has withdrawn the previous rejections under 35 U.S.C. 112 first and second paragraph in view of the amendments and/or arguments. The examiner has also withdrawn the rejection of claim 13 because the second electrochemical cell (4a, 5) of Hasei is

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clearly closer to the heater than the first electrochemical cell (3 or 9) in clear contrast to the claim requirement that the second cell be more distant.

17. With respect to the rejection over Hasei, applicant urges that electrode 7 of Hasei (the electrode that currently reads on one of applicant's electrodes for the third electrochemical cell) is used to control the drive voltage to be applied to pump 8. This may be the case, but it is unclear why this somehow obviates the rejection in question. Although the examiner does not question that the sensing device of the instant invention differs in significant ways from the teaching of Hasei, the ultimate question is whether the *claims* of the instant invention read free of the teaching of Hasei. Whether or not the electromotive force measured with electrode 7 of Hasei is utilized in a different manner than the third electrochemical cell of the claims is irrelevant because how the instant invention is utilizing the third electrochemical cell is not being claimed in a manner that reads free of Hasei. Furthermore how the third electrochemical cell is being utilized is the intended use of the third electrochemical cell, and the intended use need not be given further due consideration in determining patentability.

18. Applicant also urges that electrode 7 of Hasei cannot be utilized to accurately measure the λ -characteristics of the sensor. In particular applicant urges this because the electrode is disposed in the same gas chamber as the pumping electrode. However, nowhere in the rejected claims does it state that one of the electrodes of the third electrochemical cell cannot be located in the measurement chamber. In addition, applicant's conclusion that this electrode couldn't be utilized for λ -characteristics depends on how the various other components of the sensor are being operated (e.g. the use of the pumping cells would complicate the measurement). However, the electrode 7 could be utilized for a λ measurement provided the other pumping cells are not

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being utilized at the time. Again, how the sensor of Hasei is being operated versus the instant invention does not appear to be germane to the interpretation of apparatus claims.

Conclusion

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kaj Olsen whose telephone number is (571) 272-1344. The examiner can normally be reached on Monday through Thursday from 7:00 AM-4:30 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Mr. Nam Nguyen, can be reached at (571) 272-1342.

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When filing a fax in Group 1700, please indicate in the header "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communications with the PTO that are not for entry into the file of this application. This will expedite processing of your papers. The fax number for all official communications is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist, whose telephone number is (571) 272-1300.

A handwritten signature in black ink, appearing to read 'Kaj Olsen', with a long horizontal flourish extending to the right.

Kaj K. Olsen
Primary Examiner
AU 1753
January 29, 2004